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ABSTRACT

An analysis of student matriculation was conducted at Diablo Valley College, in California, using the cohort of 4,251 students identified as new in fall 1992. Data indicate that 22.3% of this cohort did not enroll in any courses after applying, being tested, and completing orientation and advising; 8.4% continued on in the semester, but dropped all their courses; and 69.3% completed the semester. To determine characteristics of students by academic outcome, students were further identified as fully matriculated (FM) (e.g., having completed all assessment, orientation, and advisement components), partially matriculated (PM) (e.g., having components left to complete), exempt from the components, and not matriculated (NM). Results of the analysis included the following: (1) 80% of the FM students chose transfer as an educational goal, compared to 69% of the PM, 13% of the exempt, and 42% of the NM students; (2) 82% of the NM students completed fall 1992, while 79% of the exempt, 44% of the NM, and 38% of the PM students did so; (3) 100% of the FM students enrolled in at least one subsequent semester by fall 1993; (4) FM students enrolled in and completed more units than students in other groups; and (5) while only 39% of the NM students had a grade point average of 2.0 or higher, 64% of the FM and 50% of the PM students did. Recommendations for intervention strategies and data tables are included. (KP)

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ED 374 836

MATRICULATION EVALUATION USING THE NEW STUDENT COHORT FALL 1992

Developed by the
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August 1994

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SUMMARY

Students who **completed the matriculation process** are significantly more likely to choose transfer as an educational goal, to be less than 20 years old, to complete the semester, to persist to additional semesters, and to be successful.

Students who **completed the matriculation process** enroll in more units and complete more units than students in the other three groups. Significantly more of them have a 2.0 GPA or higher.

Of the students that were **assessed and who never continued beyond the 1992 fall semester**, 77% had significant weaknesses in math. Over 50% of the students tested and who never continued beyond the 1992 fall semester were recommended to basic skills math and another 27% were recommended to elementary algebra. Their English skills do not appear to be an indicator; basic skills English was suggested to only 21% of this group of students.

Of the **students who did not participate in matriculation**, over 42% had transfer as their ed goal. But 61% of the non matriculated group enrolled only in the fall of 1992. This group also contained more women, more students over 20, more African American students and more Hispanic/Latino students than should be expected*. Only 44% of this group completed the fall 1992 semester.

Students who were exempt were significantly older, had short term not transfer ed goals, completed the fall 1992 semester only, and completed fewer than 12 units. About 53% of them had a GPA of zero, which indicates they took a significant number of their courses for CR/NC. About 95% of this group were only temporarily exempt.

* See appendix for definition of expected.

RECOMMENDATIONS

1. Identify the students whose assessment results indicate they have a weakness in math as an "At Risk Population".

    - Provide early intervention and counseling to get them enrolled in classes where they can be successful their first semester.

    - Have them enroll in appropriate developmental math courses their first semester with proper support.

2. Strongly encourage the students who choose not to participate in matriculation to be assessed and work with a counselor to develop an educational goal. Especially those who have long term goals.

3. Investigate interventions to reduce the number of students who do not take part in the matriculation process.

4. Investigate interventions to reduce the number of students who complete all or part of the matriculation process and do not enroll in classes.

MATRICULATION EVALUATION

From the fall of 1992, 4,251 students new to DVC who had no prior college experience were identified.

Of this cohort of students, 22.3% did not enroll in any course after filling out an application, after being tested, or after completing orientation and advising.

Students Who Applied Only	Students Who Completed Testing Only	Students Who Completed Couns 105 Only	Students Who Dropped All Their Courses	Students Who Completed The Semester	TOTAL
403	221	324	359	2,944	4,251
9.5%	5.2%	7.6%	8.4%	69.3%	100%

- **9.5% of the students applied but did not enroll.**
- **5.2% of the students only went through the assessment process.**
- **7.6% of the students completed orientation and advising but did not enroll in any classes in the fall semester.**

Of the 4,251 students in the cohort, 69% completed the semester by completing at least one course other than counseling 105 (orientation & advising).

For this study the students in the cohort have been separated into four groups:

Fully Matriculated	Partially Matriculated	Exempt	Not Matriculated	TOTAL
2,723	466	189	873	4,251
64.1%	11%	4.4%	20.5%	100%

Students are **"Fully Matriculated"** if they have completed one or more of the components assessment, orientation, and advisement and no component is required.

Students are **"Partially Matriculated"** if they have completed one or two of the components and the remaining are still required.

Students are **"Exempt"** if they have been exempt on all three components.

Students are **"Not Matriculated"** if they have not completed any of the three components. At least one must be required; the others may be exempt.

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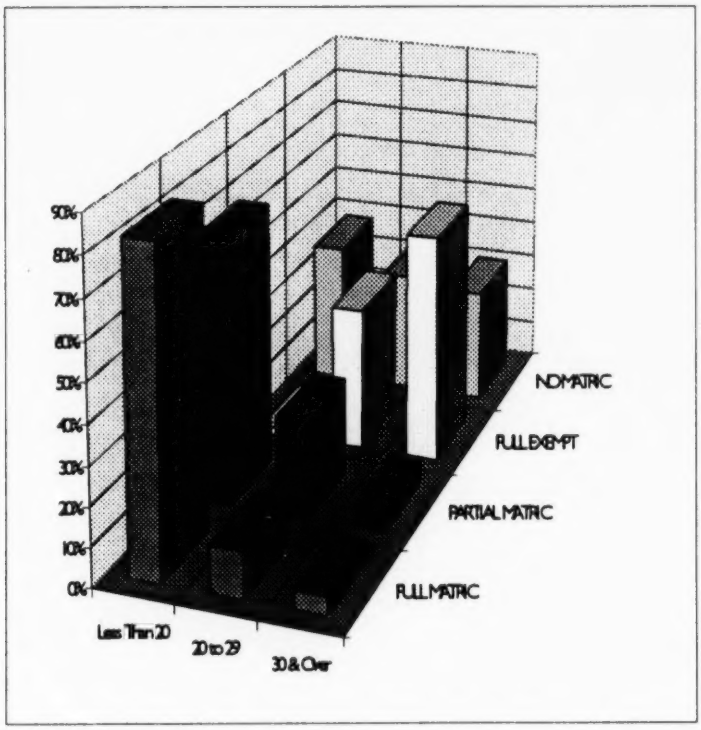
DEMOGRAPHICS

- **80%** of the students who were **fully matriculated** chose transfer as an educational goal.
- Students who were **partially matriculated** chose transfer as an ed goal 69% of the time.
- Students who were **exempt** chose transfer as an ed goal only 13% of the time, but chose job related as an ed goal 44% of the time
- Those who were **not matriculated** had indicated transfer as an ed goal 42% of the time and job related 26% of the time.
- Students who were **fully matriculated** were evenly distributed by gender.
- There were more men who **completed only part of matriculation or were fully exempt** than should be expected.
- More women were a part of the group that **did not participate in matriculation** than should be expected.
- There was a larger number of African American and Hispanic/Latino students in the group that was **not matriculated** than we should expect.
- More Asian and Filipino students were **fully matriculated** than expected.

The following table shows the age distribution for the four groups.

AGE	PERCENT OF STUDENTS			
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC
Less Than 20	83%	69%	2%	38%
20 to 29	12%	25%	38%	32%
30 & Over	5%	6%	60%	30%



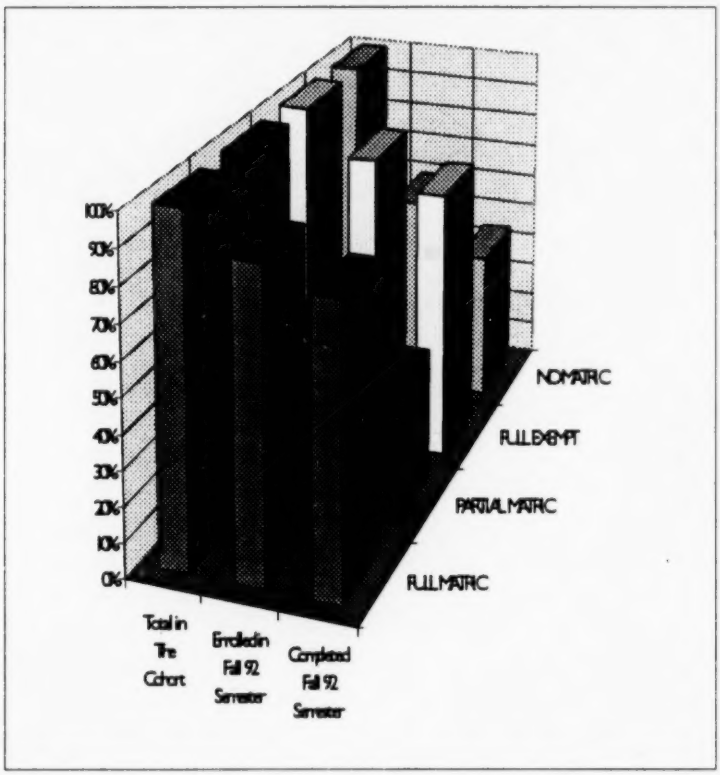
- Students who were fully matriculated were primarily less than 20 years old.
- Students who were fully exempt were primarily over 30 years old.
- Students who did not participate in matriculation were evenly spread across the three age groups.

RETENTION

"Enrolled in Fall 92 Semester" includes only those students who were enrolled in a course other than the orientation/advising course, counseling 105.

"Completed Fall 92 Semester" includes only those students who completed a course other than the orientation/advising course, counseling 105.

	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL
Total in The Cohort	100%	100%	100%	100%	100%
Enrolled in Fall 92 Semester	88%	47%	87%	59%	78%
Completed Fall 92 Semester	82%	38%	79%	44%	69%



- Students who were fully matriculated had a higher retention rate for the fall 1992 semester than the other three groups.

PERSISTENCE

A student is **persistent** when he/she enrolls in a course in subsequent semesters after their first semester. **Counseling 105 is included as one of the courses**. The summer of 1993 is not included in the table. However, eighteen of the students had attended the summer session of 1993 only. Nine were partially matriculated and nine were not matriculated.

A student is considered to have enrolled in a course even if they received a grade of "W". Students who only received a grade of "WX" are not considered enrolled. The following table is the number of students who enrolled in at least one semester by the fall of 1993.

	NUMBER ENROLLED BY THE FALL OF 1993				
	FULLY MATRIC	PARTIAL MATRIC	FULLY EXEMPT	NOT MATRIC	**TOTAL**
TOTAL ENROLLED	2,723	312	167	575	3,777
NUMBER IN THE COHORT	2,723	466	189	873	4,251
PERCENT ENROLLED	**100%**	**67%**	**88%**	**66%**	**89%**

- The "TOTAL ENROLLED" includes 207 students who were fully matriculated and their only course was counseling 105. If counseling 105 is not included as a course for being enrolled the "PERCENT ENROLLED" for the students fully matriculated would be 92%.

SEMESTERS ENROLLED	PERCENT ENROLLED				
	FULLY MATRIC	PARTIAL MATRIC	FULLY EXEMPT	NOT MATRIC	**TOTAL**
FA92	22%	28%	81%	61%	31%
SP93	0%	8%	1%	3%	1%
FA93	0%	4%	1%	3%	1%
FA92 & SP93	18%	18%	11%	14%	17%
FA92 & FA93	3%	4%	1%	3%	3%
SP93 & FA93	0%	7%	1%	1%	1%
FA92 & SP93 & FA93	57%	30%	5%	13%	45%
TOTAL ENROLLED	100%	100%	100%	100%	100%

- Of the 22% of the students who were **fully matriculated** and only attended DVC in the fall of 1992, 50% were recommended to take basic skills math and another 27% were recommended to take elementary algebra. Only 21% were suggested to take basic skills English.

- Of the 50% who were **recommended to take basic skills math**, 58% had transfer as their educational goal.

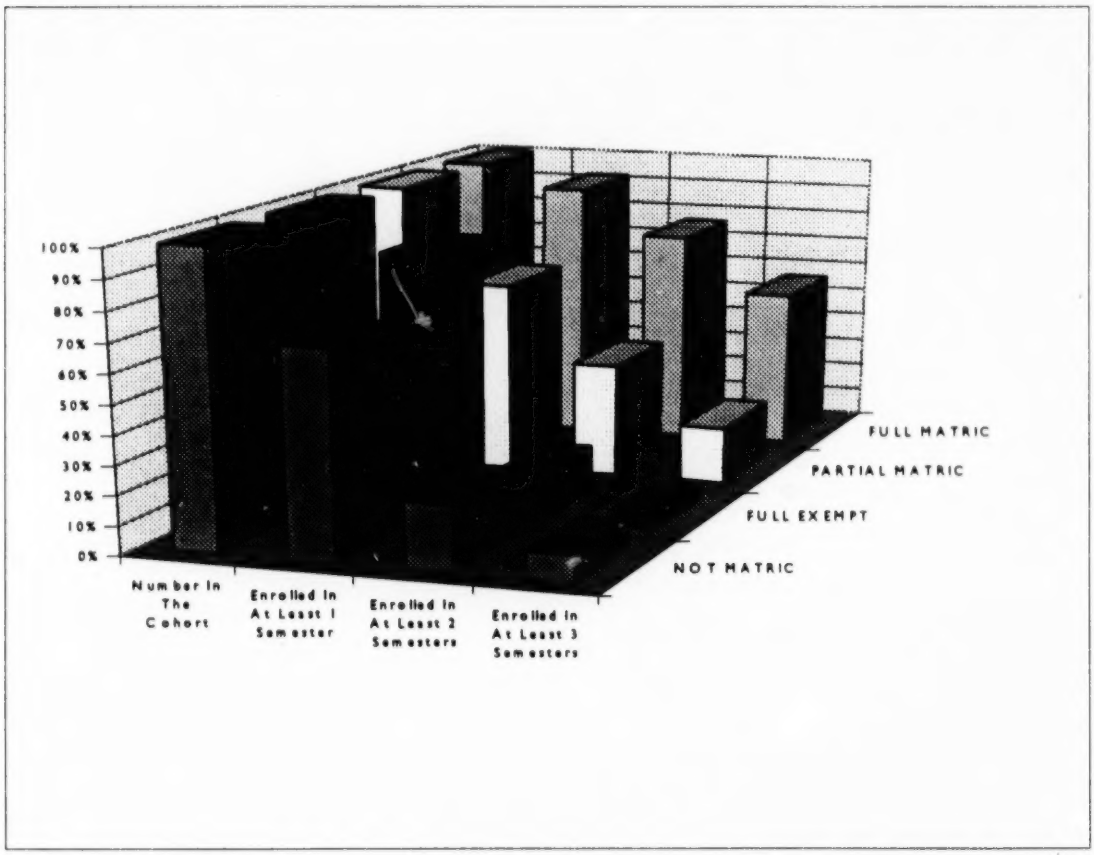
- Of the 27% who were **recommended to take elementary algebra**, 83% had transfer as their educational goal.

- Students who were **fully exempt** or who were **not matriculated** were significantly more likely to not persist beyond the fall 1992 semester at DVC than those who were fully or partially matriculated.

The following table shows the enrollment pattern of each of the four groups over three semesters.

The 207 students who were **fully matriculated** and only completed couns 105 in the fall of 1992 have been eliminated from the "Enrolled In At Least One Semester" group.

	Number In The Cohort	Enrolled In At Least One Semester	Enrolled In At Least Two Semesters	Enrolled In At Least Three Semesters
FULL MATRIC	100%	92%	78%	57%
PARTIAL MATRIC	100%	67%	40%	20%
FULL EXEMPT	100%	88%	16%	5%
NOT MATRIC	100%	66%	21%	9%



- Students who completed the matriculation process were significantly more persistent across semesters than those who did not complete the process.

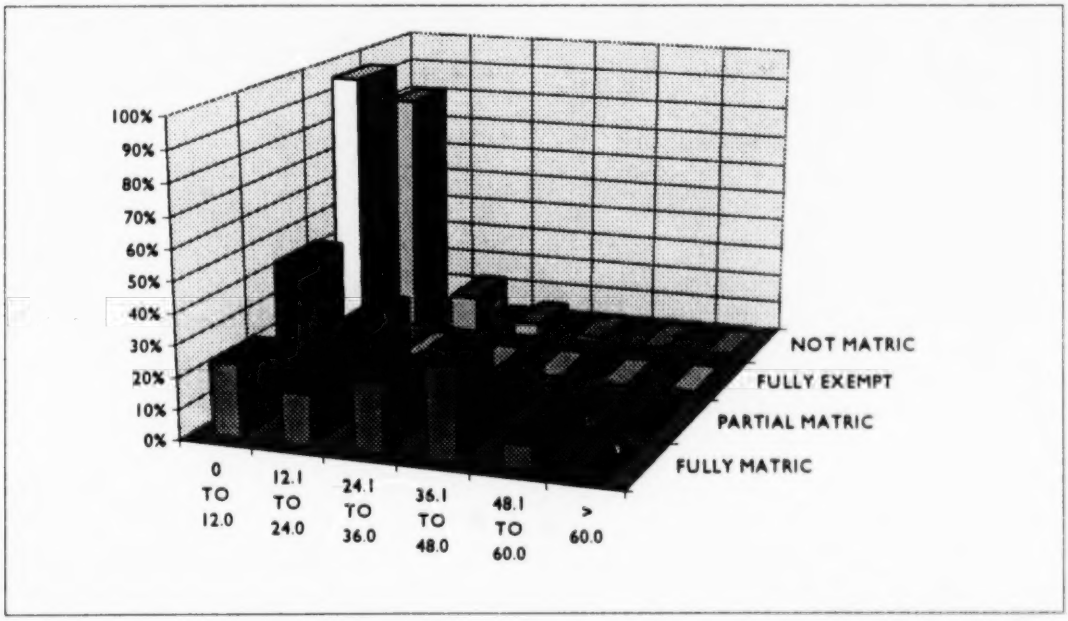
SUCCESS

Three broad measures of success are the cumulative units enrolled, the cumulative units completed, and the GPA.

The following table compares the **cumulative units enrolled** by each of the four groups.

CUMULATIVE UNITS ENROLLED

AVERAGE UNITS ENROLLED	FULLY MATRIC	PARTIAL MATRIC	FULLY EXEMPT	NOT MATRIC	TOTAL
0 TO 12.0	24%	44%	96%	81%	37%
12.1 TO 24.0	16%	28%	3%	12%	16%
24.1 TO 36.0	22%	17%	0%	4%	18%
36.1 TO 48.0	30%	9%	1%	2%	22%
48.1 TO 60.0	8%	2%	0%	0%	6%
> 60.0	1%	1%	0%	0%	0%
TOTAL	100%	100%	100%	100%	100%

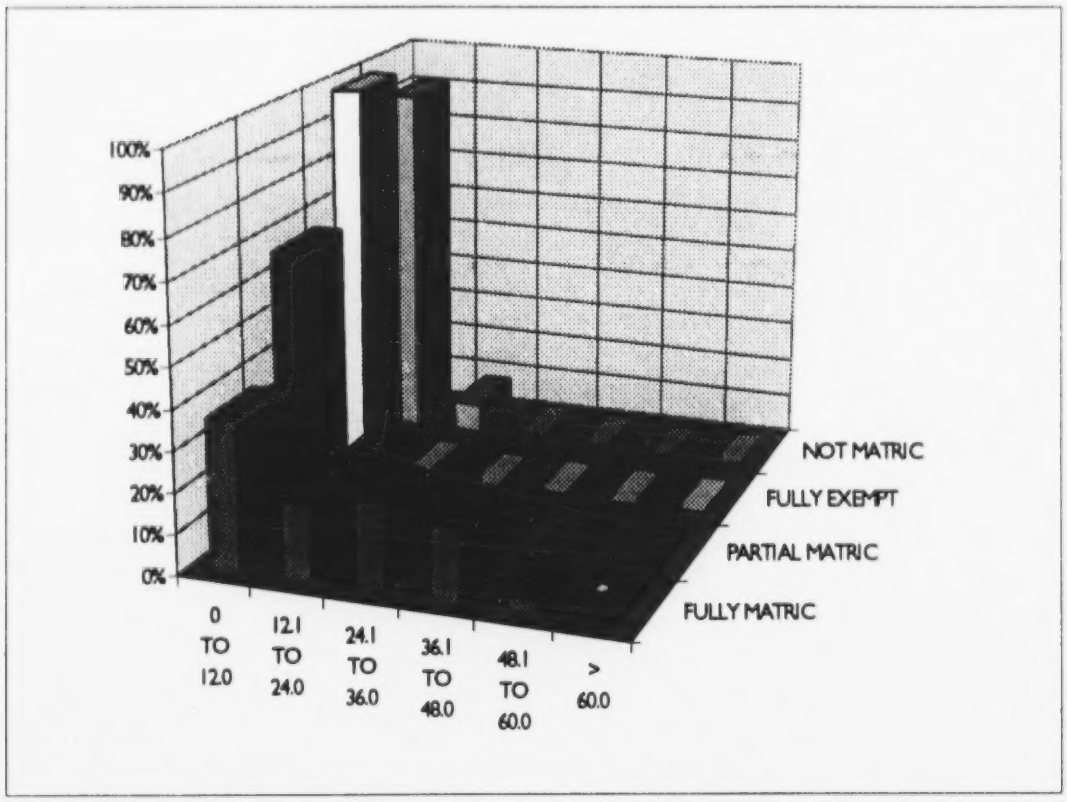


- Students who were **fully exempt or who did not complete any of the matriculation components** were significantly more likely to only enroll in 12 units or less.

The following table compares the **cumulative units completed** by each of the four groups.

CUMULATIVE UNITS COMPLETED

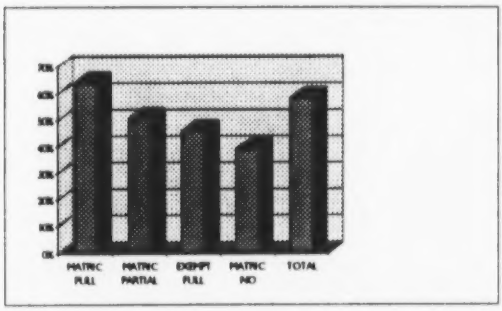
AVERAGE UNITS COMPLETED	FULLY MATRIC	PARTIAL MATRIC	FULLY EXEMPT	NOT MATRIC	TOTAL
0 TO 12.0	37%	66%	99%	90%	50%
12.1 TO 24.0	19%	19%	1%	8%	16%
24.1 TO 36.0	22%	9%	0%	1%	17%
36.1 TO 48.0	18%	6%	0%	1%	14%
48.1 TO 60.0	4%	0%	0%	0%	3%
> 60.0	0%	0%	0%	0%	0%
TOTAL	100%	100%	100%	100%	100%



- Students who were **fully exempt or who did not complete any of the matriculation components** were significantly more likely to only complete 12 units or less.

A third measure of success is the student's cumulative GPA. The following table shows the percent of students who have a **cumulative GPA of 2.0 or higher** as of their last semester enrolled.

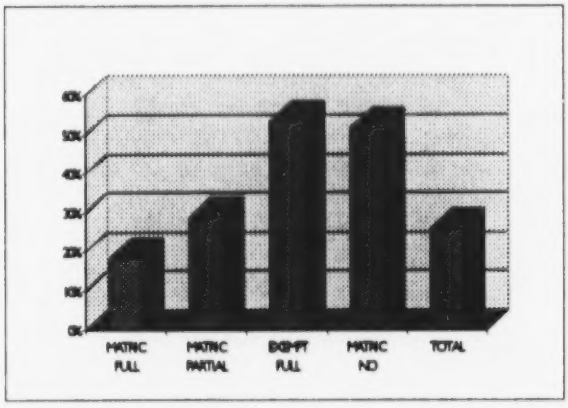
Based On The Last Semester Enrolled	PERCENT OF STUDENTS				
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL
GPA IS 2.0 OR GREATER	64%	50%	46%	39%	58%



- Students who are **fully matriculated** are significantly more likely to have a cumulative GPA of 2.0 or higher than any of the other three groups.
- Only 39% of the students who were **not matriculated** had a GPA of 2.0 or higher.

The following table shows the percent of students who have a **cumulative GPA of zero** as of their last semester enrolled. A GPA of zero will be the result of only taking courses for CR/NC, of not completing courses (a grade of W), or of receiving grades of F.

Based On The Last Semester Enrolled	PERCENT OF STUDENTS				
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL
PERCENT WITH ZERO GPA	18%	29%	53%	51%	26%



- Significantly fewer of the **fully matriculated** students had a GPA of zero than any of the other three groups.

APPENDIX

DEFINITION OF EXPECTED

To determine if students in a sub group of the cohort are any different than the students in the cohort; all 4,251 students in the Fall 1992 Cohort are used as a standard. If we assume that the proportion of each of the categories of students in a sub group of students should be the same as the proportion of those who are in the cohort, we can determine how many students we should **expect** to have in each of the categories of the sub group. A CHI probability test can then be applied between the actual number of students and the expected number of students to determine if the difference is significant.

If the percentage difference between the expected number and the actual number is 20% or more, there is considered to be a disproportionate impact.

The following tables give various distributions of the students in each of the four groups; fully matriculated, partially matriculated, fully exempt, or not matriculated.

COMPARISON OF THE ACTUAL TO THE EXPECTED NUMBER OF THE 4,251 NEW STUDENTS IN THE FALL 1992 COHORT BASED ON THEIR MATRICULATION STATUS

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	NUMBER OF STUDENTS												
	FULL MATRIC			PART MATRIC			FULL EXEMPT			NO MATRIC			TOTAL
ED GOAL	Exp	Act	% Dif	Exp	Act	% Dif	Exp	Act	% Dif	Exp	Act	% Dif	COHORT
Basic Skills	63	38	-39%	11	15	40%	4	19	339%	20	42	109%	2.3%
Job Related	297	212	-29%	51	46	-9%	20	82	300%	95	223	134%	10.9%
Personal Interest	161	83	-48%	27	25	-9%	11	27	143%	52	117	127%	5.9%
Transfer/Degree	1858	2099	13%	317	319	1%	128	25	-81%	595	370	-38%	68.2%
Undecided	308	286	-7%	53	51	-3%	21	34	60%	99	109	10%	11.3%
Other	54	6	-89%	9	9	-3%	4	1	-73%	17	12	-31%	2.0%
	2724	2724		468	465		189	188		878	873		
CHITEST	0.00			0.78			0.00			0.00			

AGE	NUMBER OF STUDENTS												TOTAL
	FULL MATRIC			PART MATRIC			FULL EXEMPT			NO MATRIC			
	Exp	Act	% Dif	Exp	Act	% Dif	Exp	Act	% Dif	Exp	Act	% Dif	COHORT
Less Than 20	1863	2254	21%	318	321	1%	129	4	-97%	597	330	-45%	68.4%
20 to 24	354	234	-34%	60	87	44%	24	42	72%	113	190	67%	13.0%
25 to 29	158	97	-39%	27	28	4%	11	31	184%	51	90	78%	5.8%
30 to 49	283	132	-53%	48	28	-42%	20	86	340%	91	194	114%	10.4%
50 & Over	65	7	-89%	11	1	-91%	5	26	476%	21	69	229%	2.4%
	2724	2724		465	465		188	189		873	873		
CHITEST	0.00			0.00			0.00			0.00			

ETHNICITY	NUMBER OF STUDENTS												TOTAL
	FULL MATRIC			PART MATRIC			FULL EXEMPT			NO MATRIC			
	Exp	Act	% Dif	Exp	Act	% Dif	Exp	Act	% Dif	Exp	Act	% Dif	COHORT
American Indian	25	15	-39%	4	8	91%	2	2	18%	8	11	40%	0.9%
Asian	253	289	14%	43	34	-21%	17	8	-54%	81	63	-22%	9.3%
African American	174	132	-24%	30	41	38%	12	15	25%	56	82	47%	6.4%
Filipino	150	175	17%	26	23	-10%	10	5	-52%	48	30	-38%	5.5%
Hispanic/Latino	278	262	-6%	47	48	1%	19	10	-48%	89	111	25%	10.2%
Pacific Island	16	14	-14%	3	5	79%	1	1	-11%	5	6	15%	0.6%
Other Non White	46	41	-11%	8	11	39%	3	4	25%	15	16	8%	1.7%
White	1754	1755	0%	299	291	-3%	121	141	16%	562	537	-4%	64.4%
No Response	30	41	37%	5	4	-22%	2	3	45%	10	14	46%	1.1%
	2727	2724		465	465		188	189		874	870		
CHITEST	0.00			0.10			0.03			0.00			

GENDER	NUMBER OF STUDENTS												TOTAL
	FULL MATRIC			PART MATRIC			FULL EXEMPT			NO MATRIC			
	Exp	Act	% Dif	Exp	Act	% Dif	Exp	Act	% Dif	Exp	Act	% Dif	COHORT
MEN	1351	1360	1%	231	239	4%	93	99	6%	433	409	-6%	49.6%
WOMEN	1373	1364	-1%	234	226	-4%	95	90	-5%	440	464	5%	50.4%
	2724	2724		465	465		188	189		873	873		
CHITEST	0.73			0.44			0.44			0.10			

DEMOGRAPHICS PERCENTAGES OF THE 4,251 NEW STUDENTS IN THE FALL 1992 COHORT

BASED ON THEIR MATRICULATION STATUS

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ED GOAL	PERCENT OF STUDENTS				
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL COHORT
Basic Skills	1%	3%	10%	5%	2%
Job Related	4%	10%	44%	26%	11%
Personal Interest	3%	5%	14%	13%	6%
Transfer/Degree	80%	69%	13%	42%	68%
Undecided	11%	11%	18%	13%	11%
Other	1%	2%	1%	1%	2%

AGE	PERCENT OF STUDENTS				
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL COHORT
Less Than 20	83%	69%	0%	38%	68%
20 to 24	9%	19%	22%	22%	13%
25 to 29	4%	6%	16%	10%	6%
30 to 49	5%	6%	46%	22%	10%
50 & Over	0%	0%	14%	8%	2%

ETHNICITY	PERCENT OF STUDENTS				
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL COHORT
American Indian	1%	2%	1%	1%	1%
Asian	11%	7%	4%	7%	9%
African American	5%	9%	8%	9%	6%
Filipino	7%	5%	3%	3%	6%
Hispanic/Latino	10%	10%	5%	13%	10%
Pacific Island	1%	1%	1%	1%	1%
Other Non White	2%	2%	2%	2%	2%
White	65%	63%	75%	62%	64%
No Response	1%	0%	2%	2%	1%

GENDER	PERCENT OF STUDENTS				
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL COHORT
Men	50%	51%	52%	47%	50%
Women	50%	49%	48%	53%	50%

ENROLLMENT PATTERN
OF THE 4,251 NEW STUDENTS
IN THE
FALL 1992 COHORT
BASED ON THEIR MATRICULATION STATUS

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SUM_TERMN SUM OF THE TERMS	TERMS ENROLLED	NUMBER ENROLLED				
		FULLY MATRIC	PARTIAL MATRIC	FULLY EXEMPT	NOT MATRIC	TOTAL
1	FA92	586	86	134	346	1,152
2	SP93	0	24	1	19	44
4	SU93	0	9	0	9	18
8	FA93	0	7	1	12	20
3	FA92 & SP93	421	51	18	76	566
5	FA92 & SU93	20	2	1	7	30
9	FA92 & FA93	67	9	1	11	88
6	SP93 & SU93	0	2	0	1	3
10	SP93 & FA93	0	13	1	4	18
12	SU93 & FA93	0	6	0	7	13
7	FA92 & SP93 & SU93	67	6	1	7	81
11	FA92 & SP93 & FA93	1,007	63	8	57	1,135
13	FA92 & SU93 & FA93	22	4	0	8	34
14	SP93 & SU93 & FA93	0	8	0	2	10
15	FA92 & SP93 & SU93 & FA93	533	31	1	18	583
	TOTAL ENROLLED	2,723	321	167	584	3,795
	NUMBER IN THE COHORT	2,723	466	189	873	4,251
	PERCENT ENROLLED	**100%**	**69%**	**88%**	**67%**	**89%**

NOTE: The "TOTAL ENROLLED" includes counseling 105 as a course.
If counseling 105 and assessment are deleted, then the "TOTAL ENROLLED" is reduced.

NOTE: All grades are included except the 'WX'.

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LAST TERM ENROLLED	NUMBER ENROLLED				
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL
FALL 92	586	86	134	346	1,152
SPRING 93	421	75	19	95	610
SUMMER 93	87	19	2	24	132
FALL 93	1,629	141	12	119	1,901
TOTAL ENROLLED	2,723	321	167	584	3,795

LAST TERM ENROLLED	PERCENT ENROLLED				
	FULL MATRIC	PARTIAL MATRIC	FULL EXEMPT	NO MATRIC	TOTAL
FALL 92	22%	27%	80%	59%	30%
SPRING 93	15%	23%	11%	16%	16%
SUMMER 93	3%	6%	1%	4%	3%
FALL 93	60%	44%	7%	20%	50%
TOTAL ENROLLED	100%	100%	100%	100%	100%

D:\cohort\matr_enr.xls (units enrol)

AVERAGE UNITS ENROLLED	FULLY MATRIC	PARTIAL MATRIC	FULLY EXEMPT	NOT MATRIC	TOTAL
0 TO 12.0	641	142	161	475	1,419
12.1 TO 24.0	445	89	5	72	611
24.1 TO 36.0	601	53	0	25	679
36.1 TO 48.0	805	28	1	11	845
48.1 TO 60.0	216	7	0	1	224
> 60.0	15	2	0	0	17
TOTAL	2,723	321	167	584	3,795

D:\cohort\matr_enr.xls (units completed)

AVERAGE UNITS COMPLETED	FULLY MATRIC	PARTIAL MATRIC	FULLY EXEMPT	NOT MATRIC	TOTAL
0 TO 12.0	999	213	165	528	1,905
12.1 TO 24.0	513	60	2	45	620
24.1 TO 36.0	598	30	0	7	635
36.1 TO 48.0	494	18	0	4	516
48.1 TO 60.0	113	0	0	0	113
> 60.0	6	0	0	0	6
TOTAL	2,723	321	167	584	3,795